



DAE  
JW

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Attorney Docket No: Q68570

Ermanno FILIPPI, *et al.*

Appln. No.: 10/082,264

Group Art Unit: 1764

Confirmation No.: 3645

Examiner: Nina N. Bhat

Filed: February 26, 2002

For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-ISOTHERMAL CONDITIONS

**PETITION FOR NEW OFFICE ACTION AND WITHDRAWAL OF HOLDING OF ABANDONMENT UNDER MPEP SECTION 7.11.03(c)(I)**

**MAIL STOP PETITION**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In response to the Notice of Abandonment (Paper No. 20051226), mailed January 4, 2006, and in accordance with the requirements of MPEP §711.03(c)(I), Applicant hereby petitions for a new Office Action and for Withdrawal of the Holding of Abandonment.

The undersigned hereby attests to the fact that the response to the Office Action of June 23, 2005 was filed by the undersigned or his office on December 23, 2005. A copy of the PTO Date Stamped Filing Receipt is attached hereto along with copies of the Amendment Under 37 C.F.R. § 1.111, Petition for Extension of Time of three months and the Terminal Disclaimer with Submission as filed.

Respectfully submitted,

Robert V. Sloan

Registration No. 22,775

SUGHRUE MION, PLLC

Telephone: (202) 293-7060

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WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: January 12, 2006



107

**FILING RECEIPT**  
**PLEASE DATE STAMP AND RETURN TO US - BOX 235X**

In re application of

Ermanno FILIPPI, *et al.*

Appln. No.: 10/082,264

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Examiner: Nina N. Bhat

Filed: February 26, 2002

For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-ISOTHERMAL  
CONDITIONS

PAPER(S) FILED ENTITLED:

1. Amendment Under 37 C.F.R. §1.111
2. Petition for Extension of Time (in duplicate) w/PTO Check No.  
288669 in the small entity amount of \$510.00
3. Terminal Disclaimer w/Submission (in duplicate) w/Deposit  
Account 19-4880 Authorization in the small entity amount of \$65.00

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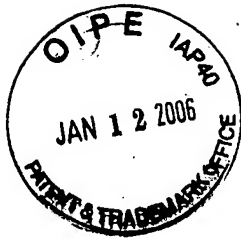
DOCKET NO.: Q68570  
ATTORNEY/SEC: RVS/yst  
Date Filed: December 23, 2005

WASHINGTON OFFICE

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Filed: February 26, 2002

**FILED**  
DEC 23 2005

For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-  
ISOTHERMAL CONDITIONS

**AMENDMENT UNDER 37 C.F.R. § 1.111**

**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In response to the Non-Final Office Action dated June 23, 2005, please amend the above-identified application as follows on the accompanying pages.

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Amendment Under 37 C.F.R. § 1.111  
USSN 10/082,264  
Attorney Docket Q68570  
December 23, 2005



### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

#### LISTING OF CLAIMS:

1. (Currently Amended) Method for carrying out in continuous, under so-called pseudo-isothermal conditions and in a predetermined reaction environment, ~~such as a catalytic bed, a selected chemical reaction, comprising the steps of providing in said reaction environment at least one heat exchanger fed with a first flow of a heat exchange operating fluid at a respective predetermined inlet temperature, feeding a first flow of a heat exchange operating fluid at a~~ respective predetermined inlet temperature in at least one tubular heat exchanger provided in said reaction environment said fluid passing through said at least one heat exchanger according to a respective inlet/outlet path, ~~which, the method is characterized by further comprising~~ feeding into said at least one heat exchanger and at one or more intermediate positions of said path, a second flow of operating fluid having a respective predetermined inlet temperature.

2. (Currently Amended) Heat exchanger ~~for the method according to claim 1,~~ comprising two wide walls (2, 3; 21, 22), a chamber (5, 26) defined between said walls (2, 3; 21, 22) ~~and intended for being passed through by a heat exchange operating fluid, a fluid inlet connector (6, 24) and a fluid outlet connector (7, 25) in and from said chamber (5, 26)~~ respectively, at least a distributor, (8, 9; 30, 31) of operating fluid, fixed to a wide surface of at

least one of said wide walls (2, 3; 21, 22) at a predetermined distance from said connectors (6, 7; 24, 25) and in fluid communication with said chamber (5, 26), at least a duct (10, 28-29) for feeding said operating fluid, in communication with said at least one distributor (8, 9; 30, 31).

3. (Currently Amended) Heat exchanger according to claim 2, ~~characterized in that~~ wherein said distributor (8, 9; 30, 31) comprises a plurality of through holes (13, 32) formed in said wall (3, 22) and a casing (14), fixed externally to said wall (3, 22) to cover said holes (13, 32) and defining with it a fluid distribution chamber (15).

4. (Currently Amended) Heat exchanger according to claim 3, ~~characterized in that~~ wherein said through holes (13, 32) are arranged according to at least a rectilinear alignment.

5. (Currently Amended) Heat exchanger according to claim 2, ~~characterized in that~~ wherein said feeding duct (10) is associated externally to said exchanger (1) and is in fluid communication with said at least one distributor (8, 9) through a respective connector (11, 12).

6. (Currently Amended) Heat exchanger according to claim 2, ~~characterized in that~~ wherein said feeding duct (29) is formed between said large walls (21, 22), separated in a liquid-tight way from said chamber (26) and is in fluid communication with said at least one distributor (30, 31) through at least a through hole (33), formed in the feeding duct (29).

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**USSN 10/082,264**  
**Attorney Docket Q68570**  
**December 23, 2005**

Amendment Under 37 C.F.R. § 1.111  
USSN 10/082,264  
Attorney Docket Q68570  
December 23, 2005

### REMARKS

Claims 1-6 are all the claims pending in the application.

In the last Office Action, Claims 1-6 inclusive were rejected under 35 U.S.C. § 102(b) as being anticipated by Dang Vu *et al.* It is submitted that the claims would not be anticipated by or obvious in view of the teachings of Dang Vu for the following reasons.

The patent to Dang Vu *et al.* should be regarded as a mere technical background of the invention, disclosing a pseudo-isothermal reactor with conventional plate heat exchangers as the one described in the prior art section of the present invention.

Dang Vu *et al.* fails to disclose the features recited in the "comprising" portion of present Claim 1. In particular, according to Dang Vu *et al.*, only one single flow of a heat exchanger operating fluid is disclosed, which crosses the heat exchangers according to an inlet/outlet path (see for instance figure 3). The claimed step of feeding a second flow of heat exchange operating fluid at one or more intermediate positions of such an inlet/outlet path is thus neither disclosed nor suggested by Dang Vu *et al.*

In other words the advantageous features of having two flows of operating fluid separately fed to the heat exchanger, the second flow being fed at one or more intermediate positions of the inlet/outlet path of the first flow is totally missing from this document.

Therefore, the technical problem of the present invention and the claimed solution thereto cannot be considered as being suggested or disclosed by Dang Vu *et al.*

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USSN 10/082,264  
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December 23, 2005

In this respect, please take note that thanks to the present invention, and in particular by suitably selecting the inlet temperature of the second flow of operating fluid and the number of said intermediate positions, wherein a mixing of such second flow with the fluid of the first flow takes place, it is advantageously possible to bring the temperature of the operating fluid back to the inlet temperature or at least to a temperature very close thereto, thus controlling the heat exchange coefficient to all advantage of the degree of completion of the chemical reaction involved.

In view of the foregoing amendments and arguments it is submitted that Claim 1 is not anticipated by or obvious in view of the teachings of Dang Vu *et al.* The same arguments also apply with respect to the heat exchanger according to Claim 2 and the claims dependent therefrom. In particular, it should be noted that the distributor manifolds (6.2a) cited by the Examiner with respect to Dang Vu *et al.* have nothing to do with and cannot be compared or confused with the at least one distributor of the present invention. As clearly recited in Claim 2, the distributor is fixed to at least one of the wide walls. According to the present invention, such a distributor allows the feeding of a second flow of operating fluid in the internal chamber of the heat exchanger, thus mixing it with the flow of operating fluid flowing along the inlet/outlet path. To this aim, the distributor is also in communication with at least a duct for feeding thereto the second flow of operating fluid.

On the contrary, in Dang Vu *et al.* the manifolds 6.2a are provided between the two wide walls, at a side edge thereof, i.e. they merely represent a sort of side wall (of reduced width) of the heat exchanger (see for instance, Dang Vu *et al.*, figure 1). In Dang Vu *et al.*, the manifolds



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December 23, 2005

6.2a are thus connecting elements between superimposed heat exchangers in order to collect the operating fluid coming from a first exchanger (6.3, 1a) and distributing it to a second lower exchanger (6.3, 2a). No feeding duct in communication with such manifolds 6.2a is disclosed in Dang Vu. *et al.*

In view of the foregoing amendments and arguments with respect to Claims 2-6, it is submitted that claims 2-6 inclusive would not be anticipated by or obvious in view of the teachings of Dang Vu *et al.*

In the last Office Action Claims 1-6 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-6 of co-pending application serial number 10/648,894 (US 2004/0091403). It is noted that the correct serial number of the application as indicated in the patent application publication is 10/648,894. A Terminal Disclaimer is submitted herewith thereby obviating this rejection.

In the last Office Action the Examiner stated that if the claims were amended to a heat exchanger as opposed to a method of using the heat exchanger Applicant would be subjected to an obviousness-type double patenting rejection over 10/493,035 (US 2005/0061490). This position is respectfully traversed since the subject matter of independent Claim 2, as amended, is not anticipated by or obvious in view of the disclosure of the co-pending application.

Application No. 10/493,035 merely teaches a plate heat exchanger having an internal chamber intended for being passed through by a heat exchange operating fluid in fluid communication with the fluid inlet connector and a fluid outlet connector. In this document, the essential features of the claimed heat exchanger according to the present invention, wherein the

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chamber is further in fluid communication with at least one distributor fixed to at least one of the heat exchanger walls at a predetermined distance from the inlet and outlet connectors, are totally missing.

In view of the foregoing distinctions, it is submitted that it would be improper to subject Claims 2-6 inclusive to an obviousness-type double patenting rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
Robert V. Sloan  
Registration No. 22,775

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
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Group Art Unit: 1764

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Examiner: Nina N. Bhat

Filed: February 26, 2002

**FILED**  
DEC 23 2005

For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-ISOTHERMAL CONDITIONS

**PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. § 1.136**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.136, Applicant hereby petitions for an extension of time of three months, extending the time for responding to the Non-Final Office Action of June 23, 2005 to December 23, 2005.

A check for the statutory small entity fee of \$510.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this sheet is enclosed.


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Respectfully submitted,

  
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Registration No. 22,775

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For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-  
ISOTHERMAL CONDITIONS

SUBMISSION OF TERMINAL DISCLAIMER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**FILED**  
DEC 23 2005

Sir:

Submitted herewith is a Terminal Disclaimer in the above-identified application. The USPTO is directed and authorized to charge the small entity fee in the amount of \$65.00 and all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this Submission is attached.

Respectfully submitted,

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WASHINGTON OFFICE

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Date: December 23, 2005

JAN 12 2006

MODIFIED PTO/SB/25 (09-04)

**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket  
Number

Q68570

In re Application of: Ermanno FILIPPI, *et al.*

Application No.: 10/082,264

Filed: February 26, 2002

For: METHOD FOR CARRYING OUT CHEMICAL REACTIONS IN PSEUDO-ISOTHERMAL CONDITIONS

The owner\*, METHANOL CASALE S.A., of Lugano Besso, Switzerland, percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 10/348,894, filed on August 27, 2003, as such term is defined in 35 U.S.C. 154 and 173, and as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

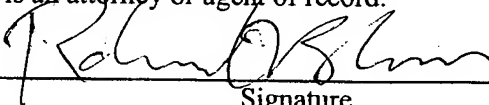
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record.

  
Signature

December 23, 2005

Date

Robert V. Sloan

22,775

(202) 293-7060

Typed or printed name

Reg No.

Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) or authorization to charge said fee to Deposit Account No. 19-4880 is included.

\*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).  
Form PTO/SB/96 may be used for making this statement. See MPEP § 324.